elers as well as to persons directly interested in the development of the countries of which they treat.

The *Botanical Gazette* for October contains a sketch, by Mr. Norton, of the life of the late Joseph F. Joor, a botanist of Texas and Louisiana.

PETROGRAPHY.

The Lavas of Two Volcanoes in the Eifel. — The lavas of the small volcanoes Hochsimmer and Bellerberg, near Mayen, in the Eifel, were thought to be similar in composition by the earlier geologists. Schottler,[1] however, reports the Hochsimmer lava to be a porphyritic leucitite with phenocrysts of augite, biotite, olivine, and hauyne in a groundmass composed of leucite, augite, and glass. The Bellerberg lavas are augite-andesites, with phenocrysts of augite and biotite in a groundmass composed of augite, plagioclase, a little leucite, and glass. Olivine, hauyne, and quartz are also present in some specimens as porphyritic crystals. The rock approaches in character the tephrites. Large numbers of inclusions are imbedded in the lavas. Some of them are unquestionably endogenous, while others are certainly exogenous. A few consisting of single minerals exhibit no evidence as to their origin. All have been deeply corroded by the action of the enclosing magma. The isolated minerals represented among the foreign inclusions are: hauyne, zircon, corundum, garnet, olivine, feldspar, and quartz. The rock inclusions are fragments of graywackes, slates, quartz-feldspar-aggregates, cordierite and sillimanite-bearing schists, hornblende-schists and biotite-schists, augite-feldspar-aggregates, limestone, and sanidine-aggregates. The limestone inclusions often contain cavities, and in these crystals of chalcomorphite, ettringite, and quartz have been deposited. The action of the magma on the limestone is seen in the formation of feldspars, augite, and glass in the rock surrounding the inclusion, and in the production of wollastonite, quartz, and nepheline in the inclusion itself.

A Sedimentary Granite. — Professor Winchell[2] points out the fact that the oldest rocks in Minnesota are the archean greenstones. The granites which intrude these are believed to be fused sediments.

[1] *Neues Jahrb. f. Min.* etc., Beil. Bd. xi, p. 554.

[2] *Amer. Geologist*, vol. xxii, p. 299.